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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FLANDERS, ANDREW C

ART UNIT PAPER NUMBER

2644

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/859,640	Applicant(s) RABIPOUR ET AL.	
	Examiner Andrew C. Flanders	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 – 38 and 40 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

Applicant's arguments filed 16 September 2005 regarding claim 39 have been fully considered but they are not persuasive.

Applicant Alleges:

“Regarding the first criteria listed above, the applicant submits that Fitzgerald and Xiang et al. relate to non-analogous art. More specifically, Fitzgerald provides a hop by hop loop back system that identifies and locates the causes of audio QOS problems in a distributed packet switched network by analyzing different router delays in the network. Once the location and source of the QOS problem are identified, “priority bits in the audio packets to increase priority” (col. 5, lines 25-26).”

“In contrast, Xiang et al. provides a “method of minimizing the number of transcodings of a speech signal during a conference call when the call is transported over a packet-switched network... in which Tandem Free Operation (TFO) is utilized to control transcoding of the speech signal” (col. 2, lines 20-27).”

Examiner respectfully disagrees with this allegation. Examiner points to col. 5 lines 54 – 55 of Fitzgerald where it states “the multilevel loop backs can be performed in any VoIP gateway in network 12”. Examiner also points to col. 1 lines 10 – 15 in Xiang where it states “this invention... minimizes the number of transcodings in a packet switched network, such as a Voice-over IP (VoIP) network”. Thus, contrary to

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Applicants' allegation, the Fitzgerald reference and the Xiang reference are analogous art. The Fitzgerald reference discloses a way for routing packets over a VoIP network and Xiang discloses a method of reducing transcodings in a VoIP network.

Applicant further alleges:

In the Office action, the Examiner has stated that "one would be motivated to combine Fitzgerald and Xiang et al. to reduce the costs and improve speech quality in a VOIP environment such as the one disclosed by Fitzgerald". However, as stated in the case of *In re Oetiker* 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed Cir. 1992), "there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of that invention would make the combination. That knowledge can not come from the Applicant's invention itself."

"The subject matter of Fitzgerald is completely unrelated to the concept of Tandem Free Operation and therefore would derive no benefit from "minimizing the number of transcodings of a speech signal during a conference call." Similarly, the Applicant respectfully submits that the subject matter of Xiang et al. is completely unrelated to, and would therefore derive no benefit from, a hop by hop loop back system for determining the location and causes of audio QoS. As such, the Applicant respectfully submits there is no reason, suggestion or motivation found in the prior art to combine these references."

Examiner further points to lines 10 – 16 in Xiang " tandem free operation is utilized to control transcodings of the speech signal to reduce transmission cost and improve speech quality". This occurs in a VoIP network. Further, reducing transmission cost and improving speech quality is a desirable trait and one would have been motivated to add it to the Fitzgerald system to further enhance the VoIP network disclosed. Thus, contrary to Applicant's allegation, the motivation to combine is not taken from Applicant's invention.

Again, as shown above, the subject matter of the two references are not completely unrelated as advanced by Applicant. Thus, contrary to Applicant's allegation, it would be a benefit to add Xiang to reduce transmission cost and improve speech quality, which is found in the prior art.

Applicant further alleges:

"Regarding the third criteria listed in MPEP s 706.02(), namely that the prior art references must teach or suggest all of the claim limitations, the Examiner's attention is directed to the following limitations of amended claim 39 (emphasis added):"

"39. An apparatus for selectively enabling tandem-free operation of a communications link, the communication link comprising at least one functional stage operative to implement at least one processing operation on an audio signal, during tandem-free operation said at least one functional stage being disabled, said apparatus comprising:

a) **an input for receiving data elements indicative of an effectiveness of the at least one processing operation on the audio signal;**

b) a processing unit coupled to said input, said processing unit being **operative for processing the data element to generate a control data element suitable for causing the communications link to selectively enable tandem-free operation of the communications link;**

c) an output for releasing a control signal indicative of the control data element to the at least one functional stage in the communications link for selectively enabling tandem-free operation.

The Applicant respectfully submits that the neither of the references cited by the Examiner disclose, teach or suggest the subject matter of claim 39. Without limiting the generality of the foregoing, the Applicant respectfully submits that the references cited by the Examiner do not disclose, teach or suggest the above-emphasized limitations of amended claim 39."

"Fitzgerald, as discussed above, is completely silent on the issue of tandem vocoding. In addition, Fitzgerald fails to teach or suggest:

"an input for receiving data elements indicative of an effectiveness of the at least one processing operation on the audio signal" and

"a processing unit . . . operative for processing the data element to generate a control data element suitable for causing the communications link to selectively enable tandem-free operation of the communications link"

as required by claim 39."

"Xiang et al., for its part, describes a series of handshaking operations required to minimize the number of transcodings in a three-way conference call. There is nothing in Xiang et al. that teaches or suggests:

"an apparatus ... comprising: an input for receiving data elements indicative of an effectiveness of the at least one processing operation on the audio signal" and

"operative for processing the data element to generate a control data element suitable for causing the communications link to selectively enable tandem-free operation of the communications link"

Examiner respectfully disagrees with this allegation. As shown in the previous rejection, Fitzgerald does in fact teach "an input for receiving data elements indicative of an effectiveness of the at least one processing operation on the audio signal (i.e. the delay is continuously tested to ensure it does not exceed the threshold, if it does the priority is altered; col. 5 lines 9 – 30 in Fitzgerald. Further, after the priority is altered, the continuous testing receives info on the delay). Furthermore the combination of Xiang and Fitzgerald discloses "operative for processing the data element to generate a control data element suitable for causing the communications link to selectively enable tandem-free operation of the communications link" (Examiner further points to Xiang col. 2 lines 24 – 35 for further clarification in which it states the method is used over a Voice-over-IP network, in which Tandem Free operation is utilized to control transcodings of the speech signal... the second gateway sends message to a gateway connecting the

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first subscriber to the network and the message indicates the speech coding mode to be utilized.) As such, the arguments are not persuasive and the rejection stands.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4 – 14, 16 – 28, 30 – 38 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Fitzgerald (U.S. Patent 6,466,548).

Regarding **Claim 1**, Fitzgerald discloses:

A method for controlling an operative setting of a communications link, the communications link being capable of acquiring a plurality of operative settings (abstract and the text references cited below), said method comprising:

a) comparing audio quality in the communications link under at least two operative settings (i.e. two routes are shown from the originating gateway to the destination gateway; Fig. 4 and col. 5 lines 30 - 45);

b) selecting an operative setting from the at least two operative settings at least in part on the basis of the comparing in a) (A system administrator can perform capacity planning around two paths, the network can then be configured to route telephone calls through the path 44; col. 5 lines 30 - 45);

c) sending a control signal to at least one component in the communications link to cause the communications link to attempt to acquire the selected setting (i.e. it is inherent that the voice packets sent will contain information that directs the routers to forward the packets according to the selected path. If there were no information in the packets sent in the network disclosed in Fig. 4, it would not be possible for an administrator to select one of the two routes).

Regarding **Claims 13 and 40**, they are interpreted and thus rejected for the same reasons as set forth above in claim 1. Since claims 13, 25 and 40 disclose an apparatus, which corresponds to, the method of claim 1., the apparatuses are interpreted as simply providing functionality for the structure of claim 1.

Regarding **Claim 25**, claim 25 is interpreted and thus rejected for the same reasons as set forth above in claims 1, 7 and 13. Since claim 25 discloses an apparatus, which corresponds to, the method of claims 1, 7 and 13., the apparatuses are interpreted as simply providing functionality for the structure of claims 1, 7 and 13.

Regarding **Claim 27**, it is interpreted and thus rejected for the same reasons as set forth above in claim 1. Since claim 27 discloses a computer readable medium, which corresponds to, the method of claim 1., the computer readable medium is interpreted as simply providing functionality for the structure of claim 1.

Regarding **Claim 2, 14 and 28**, in addition to the elements stated above regarding claims 1, 13 and 27, Fitzgerald further discloses:

wherein audio quality is a measure of actual audio quality of the communications link under the at least two operative settings (i.e. packets are sent out and looped back to determine the delay; col. 4 lines 22 – 34).

Regarding **Claims 4, 17 and 31**, in addition to the elements stated above regarding claims 1, 13 and 27, Fitzgerald further discloses:

wherein the communications link comprises a plurality of components (i.e. Fig. 2 routers, the various routers),

said method comprising sending a control signal to the plurality of components in the communications link to cause the communications link to acquire the selected setting (i.e. it is inherent that the voice packets sent will contain information that directs the routers to forward the packets according to the selected path. If there were no information in the packets sent in the network disclosed in Fig. 4, it would not be possible for an administrator to select one of the two routes).

Regarding **Claims 5, 16 and 30**, in addition to the elements stated above regarding claim 1, Fitzgerald further discloses:

a) deriving measurements of a certain characteristic of an audio signal for respective operative settings, the certain characteristics characterizing at least in part audio quality (i.e. determining the delay in paths 44 and 46; col. 5 lines 35 - 45);

b) comparing the measurements in a) to select an operative setting (i.e. the network can then be configured to route telephone calls through the path 44; col. 5 lines 30 - 45).

Regarding **Claim 6, 18 and 32**, in addition to the elements stated above regarding claims 5, 16 and 31, Fitzgerald further discloses:

wherein the certain characteristic is selected from the set consisting of a measure of echo, measure of delay, the signal level, a measure of the information loss and noise (i.e. determining the delay in the network; col. 5 lines 35 - 45).

Regarding **Claims 7, 19 and 33**, in addition to the elements stated above regarding claim 5, Fitzgerald further discloses:

a) deriving measurements for a set of characteristics of an audio signal for respective operative settings, each characteristic in the set of characteristics characterizing at least in part audio quality under a given operative setting (i.e. determining the delay in paths 44 and 46; col. 5 lines 35 - 45);

b) comparing the measurements derived in a) to select an operative setting i.e. the network can then be configured to route telephone calls through the path 44; col. 5 lines 30 - 45).

Regarding **Claims 8, 20 and 34**, in addition to the elements stated above regarding claim 7, 19 and 33, Fitzgerald further discloses:

wherein the set characteristic includes at least one characteristic selected from the set consisting of a measure of echo, measure of delay, the signal level, a measure of information loss and noise (i.e. determining the delay in paths 44 and 46; col. 5 lines 35 - 45).

Regarding **Claims 9, 21 and 35**, in addition to the elements stated above regarding claims 1, 13 and 27, Fitzgerald further discloses:

wherein the communications link is capable of acquiring two operative settings namely a bypass setting and an active setting (i.e. non prioritized packets and prioritized packets);

when in the bypass setting the communications link transmitting an audio signal substantially unaltered (i.e. when there delay threshold is not exceeded the packets are transmitted normally without using the hop by hop loop back to determine a source of delay; col. 4 lines 16 – 22);

when in the active setting the communications link transmitting an audio signal subsequent to at least one processing operation on the audio signal (i.e. if there is a

large delay detected and the problem is congestion, priority bits are set in the audio packets to place them higher in the queue in the routers; col. 5 lines 21 – 30).

Regarding **Claims 10, 22 and 36**, in addition to the elements stated above regarding claims 9, 21 and 35, Fitzgerald further discloses:

a) providing a data element indicative of a measure of effectiveness associated with the at least one processing operation on the audio signal (i.e. determining the delay in the network of multiple routers for voice packets in order to determine QoS; col. 4 lines 15 – 21);

b) selecting a setting at least in part on the basis of the measure of effectiveness of the at least one processing operation (i.e. if there is a large delay detected and the problem is congestion, priority bits are set in the audio packets to place them higher in the queue in the routers; col. 5 lines 21 – 30).

Regarding **Claims 11, 23 and 37**, in addition to the elements stated above regarding claims 10, 22 and 36, Fitzgerald further discloses:

wherein said measure of effectiveness is used to assess a degree of improvement in audio quality over an audio quality associated with the bypass setting (i.e. different router queuing techniques can be selected to more efficiently process the audio packets; col. 5 lines 26 – 27).

Regarding **Claims 12, 24 and 38**, in addition to the elements stated above regarding claims 11, 22 and 37, Fitzgerald further discloses:

selecting the active setting when the measure of effectiveness is above a certain threshold of effectiveness (i.e. if there is a large delay detected and the problem is congestion, priority bits are set in the audio packets to place them higher in the queue in the routers; col. 5 lines 21 – 30).

Regarding **Claim 26**, in addition to the elements stated above regarding claim 25, Fitzgerald further discloses:

wherein the at least one processing operation is selected from the set consisting of echo cancellation, noise reduction, noise conditioning, information loss management and signal level adjustment (i.e. the delay is calculated to fix the QoS by ensuring the packets arrive on time; col. 5 lines 21 – 30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 15 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzgerald (U.S. Patent 6,466,548).

Regarding **Claims 3, 15 and 29**, in addition to the elements stated above regarding claims 1, 13 and 27, Fitzgerald discloses wherein audio quality is a measure of actual audio quality of the communications link under different operative settings (i.e. packets are sent out and looped back to determine the delay; col. 4 lines 22 – 34). Fitzgerald does not disclose using estimation to derive the quality of the input signal. However, using estimation is an obvious implementation choice to one of ordinary skill in the art at the time of the invention. One of ordinary skill in the art would have been motivated to estimate the quality in order to save on processing time and thus create a system that would be further suited to operate in real time.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzgerald (U.S. Patent 6,466,548) in view of Xiang (U.S. Patent 6,574,469).

Regarding **Claim 39**, in addition to the elements stated above regarding claims 1, 13, 25, 27, and 40, Fitzgerald does not disclose a tandem-free operation or enabling a tandem-free operation of the communication link selectively.

Xiang discloses:

a tandem-free operation and enabling a tandem-free operation of the communication link selectively (i.e. tandem-free operation is enabled when two VOIP users are connected and the encoding is determined; col. 1 lines 20 – 41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a tandem-free mode such as the one disclosed by Xiang to Fitzgerald's

system. One would have been motivated to do so to reduce transmission costs and improve speech quality in a VOIP environment such as the one disclosed by Fitzgerald; see Xiang col. 1 lines 10 – 16.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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